

AMENDMENTS TO THE CLAIMS

- 1-4. (canceled)
5. (currently amended) A process for delivering a polynucleotide to the cytoplasm of a cell in vitro consisting of:
- a) forming a styrene-maleic anhydride random copolymer;
  - b) increasing hydrophobicity of the copolymer by randomly attaching hydrophobic groups along the copolymer backbone in a sufficient amount to form reacting hydrophobic amines or hydrophobic alcohols with anhydride monomers in the copolymer thereby forming a membrane active polyanion capable of lysing mammalian cell membranes at pH 6.5 wherein randomly attaching hydrophobic groups along the copolymer backbone consists of reacting hydrophobic amines or hydrophobic alcohols with anhydride monomers in the copolymer; and
  - c) contacting said cell with said polynucleotide and said membrane active polyanion such that the polynucleotide and the membrane active polyanion are endocytosed by the cell.
6. (canceled)
7. (previously presented) The process of claim 5 wherein the hydrophobic amines consist of alkyl amines.
8. (previously presented) The process of claim 7 wherein a functional group is covalently linked to an anhydride monomer in the polymer.
- 9-11. (canceled)

12. (currently amended) A process for delivering a polynucleotide to the cytoplasm of a cell in vitro consisting of:
- a) forming a butyl vinyl ether-maleic anhydride alternating copolymer;
  - b) increasing hydrophobicity of the copolymer by randomly attaching hydrophobic groups along the copolymer backbone in a sufficient amount to form reacting hydrophobic amines or hydrophobic alcohols with anhydride monomers in the copolymer thereby forming a membrane active polyanion capable of lysing mammalian cell membranes at pH 6.5 wherein randomly attaching hydrophobic groups along the copolymer backbone consists of reacting hydrophobic amines or hydrophobic alcohols with anhydride monomers in the copolymer; and
  - c) contacting said cell with said polynucleotide and said membrane active polyanion such that the polynucleotide and the membrane active polyanion are endocytosed by the cell.
- 13.-15. (canceled)
16. (previously presented) The process of claim 12 wherein the hydrophobic amines consist of alkyl amines.
17. (previously presented) The process of claim 12 wherein a functional group is covalently linked to an anhydride monomer in the polymer.
- 18-20. (canceled)
21. (previously presented) The process of claim 8 wherein the functional group is selected from the group consisting of: targeting groups, steric stabilizers, membrane active compounds, and reactive groups.
22. (previously presented) The process of claim 17 wherein the functional group is selected from the group consisting of: targeting groups, steric stabilizers, membrane active compounds, and reactive groups.